

LISTING OF AND AMENDMENTS TO CLAIMS:

1. (currently amended) A digital document browsing system comprising:

a layout engine, for determining the layout of a digital document having sentences and images, based on digital document display form historical data of use of said document, acquired previously, by said browsing system;

a view generator, for generating, in accordance with said layout determined by said layout engine, data relating to the display form of said digital document, said data including a summary preparation request designating sentences ~~a sentence~~ in the digital document for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of ~~[[an]] original sentences sentence~~ in the digital document, said summarization rate varying and being determined for each sentence within said document, and a compression rate for said images, said compression rate varying for each of said images within said document;

a summarization engine for generating a summary in response to said data; and

a user interface, for displaying said digital document on a display device based on said data relating to said display form generated by said view generator.

2. (original) The digital document browsing system according to claim 1, wherein said layout engine employs said historical data when allocating a display area, for

said display form of said digital document, for each element constituting said digital document.

3. (previously presented) The digital document browsing system according to claim 1, further comprising:

a history database within said browsing system,

wherein after said digital document has been displayed, through said user interface, by using a predetermined display form for a predetermined period of time, and when said display form is updated by said user, data relating to said display form that has been used is stored as historical data in said history database, and

wherein said layout engine determines said layout of said digital document based on said historical data obtained from said history database.

4. (previously presented) The digital document browsing system according to claim 1, wherein:

said summarization engine also prepares summaries for the sentences in said digital document based on said historical data acquired for said digital document, and

wherein said view generator arranges said summaries, prepared by said summarization engine, in accordance with said layout determined by said layout engine, and generates data for a display form.

5. (original) The digital document browsing system according to claim 4, wherein, based on said historical data, said summarization engine determines which parameters are required for summarization, and prepares a summary for

each of the predetermined sentence elements that constitute the sentences of said digital document.

6. (previously presented) A digital document browsing system comprising:

a display form generator, for generating a display form wherein display areas to be allocated to elements constituting said digital document are altered in accordance with the importance levels of said elements, while the general structure of a digital document is maintained and all of the elements of the digital document are always displayed simultaneously on a single screen; and

a display for displaying said digital document in said display form that is generated by said display form generator.

7. (original) The digital document browsing system according to claim 6, wherein, in order to display an entire page of said digital document in a single display area, said display form generator allocates a small display area for an element having a low importance level, and a large display area for an element having a high importance level.

8. (original) The digital document browsing system according to claim 6, wherein said display form generator arranges a display area near the center of said display form for an element having a high importance level, and arranges a display area nearer the side of said display form for an element having a low importance level.

9. (currently amended) A digital document browsing system comprising:

a summarization engine, for preparing summaries for sentences in a digital document based on historical data related to a display form previously used for said digital document and data relating to the display form of said digital document, said data including a summary preparation request designating sentences ~~a sentence~~ in the digital document for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of [[an]] original ~~sentences~~ sentence in the digital document, said summarization rate varying and being determined for each sentence within said document, and a compression rate for any images within said document, said compression rate varying for each image;

a view generator, for inserting said summaries prepared by said summarization engine instead of the original contents of said digital document, and for generating data relating to the display form of said digital document; and

a user interface, for displaying said digital document on a display device based on said data, generated by said view generator, relating to said display form.

10. (original) The digital document browsing system according to claim 9, wherein, based on said historical data, said summarization engine determines which parameters are required for summarization, and prepares said summary for each of the predetermined sentence elements constituting the sentences of said digital document.

11. (previously presented) The digital document browsing system according to claim 9, further comprising:

a history database within said browsing system,

wherein, after said digital document has been displayed, through said user interface, with a predetermined display form for a predetermined period of time, and when said user has updated said display form, data related to said display form that has been used is stored as historical data in said history database, and

wherein said summarization engine summarizes said sentences of said digital document based on said historical data obtained from said history database.

12. (currently amended) A browser for displaying a digital document on a display device comprising:

an input function for entering a digital document to be displayed; and

a display function, for displaying said digital document using a predetermined display form,

wherein said display function displays, instead of the original contents of said digital document, a summary that is prepared based on historical data related to a display form for said document previously used for display of said digital document on said display device and other data relating to the display form of said digital document, said other data including a summary preparation request designating sentences a—sentence in the digital document for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of [[an]] original sentences

sentence in the digital document, said summarization rate varying and being determined for each sentence within said document, and a compression rate for any images within said document, said compression rate varying for each image.

13. (original) The browser according to claim 12, wherein, based on said historical data, said display function determines which parameters are required for summarization, and prepares said summary for each of the predetermined sentence elements constituting the sentences of said digital document.

14. (original) The browser according to claim 12, wherein, based on said historical data, said display function displays said digital document using a display form wherein said summary is displayed in display areas arranged for the individual elements that constitute said digital document.

15. (previously presented) A browser for displaying a digital document on a display device comprising:

    a display function, for displaying a digital document having a predetermined display form; and

    a display updating function, for updating said display form,

    wherein according to a predetermined rule said display function, while maintaining the structure of said digital document, alters display areas to be allocated for elements constituting said digital document so as to always simultaneously display all of its elements on a single screen, and displays said digital document in the resultant display areas.

16. (original) The browser according to claim 15, wherein said display function displays an image, which is an element constituting said digital document, using a size that corresponds to the display area of a sentence portion in said digital document that is relevant to said image.

17. (original) The browser according to claim 15, wherein, in the display form of said digital document to be displayed, initially, said display function enlarges a display area for an element located at the head of said digital document, and reduces display areas for succeeding elements; and reduces a summarization rate for an element located at the head of said digital document and increases said summarization rate for succeeding elements, and wherein, each time said display updating function updates said display form upon receiving an update request, said display function shifts rearward the range wherein a large display area is set and said summarization rate is reduced for the sentence element.

18. (original) The browser according to claim 15, wherein said display updating function accepts an update request for a predetermined designated portion in said digital document that is currently displayed, and in accordance with said update request, enlarges a display area for an element in said designated portion, and displays a sentence in said designated portion, instead of a sentence having a low summarization rate.

19. (currently amended) A sentence summarization system comprising:

a summarization history database, in which historical data for the summarization of sentences in a document is stored; and

a summarization engine, for summarizing sentences based on said historical data stored in said summarization history database for said document, and other data relating to the display form of said digital document, said other data including a summary preparation request designating sentences ~~a—sentence~~ in the digital document for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of ~~[[an]] original~~ sentences ~~sentence~~ in the digital document, said summarization rate varying and being determined for each sentence within said document, and a compression rate for any images within said document, said compression rate varying for each image.

20. (original) The sentence summarization system according to claim 19, wherein, based on said historical data, said summarization engine determines which parameters are required for summarization, and prepares said summary for each of the predetermined sentence elements that constitute the sentences of said digital document.

21. (previously presented) A digital document display method for displaying a digital document on a display device comprising the steps of:

extracting the structure of said digital document;

replacing, for each of the elements of said structure, the original contents of said digital document with a summary that is prepared based on historical data related to a display form for said document that was previously used for said digital document on said display device, and generating data related to a new display form; and

displaying said digital document on said display device based on said data related to said new display form, so that all elements of said digital document are always simultaneously displayed on one screen.

22. (previously presented) A digital document display method for displaying a digital document on a display device comprising the steps of:

extracting the structure of a digital document;

generating data, while maintaining said structure of said digital document, related to a display form wherein display areas to be allocated to elements that constitute said digital document are altered in accordance with the importance levels of said elements, so that all elements of said digital document are always simultaneously presented on one screen; and

displaying said digital document on a display device based on said data related to said display form.

23. (currently amended) A sentence summarization method comprising the steps of:

obtaining [[a]] target sentences sentence to be summarized;

obtaining historical data related to a summary for said target sentences sentence from a summarization history

database in which historical data are stored that are related to a previous summarization of a document containing said sentences sentence, said data relating to the display form of said digital document, said data including a summary preparation request designating sentences ~~the sentence~~ for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of the target sentences sentence in the digital document, said summarization rate varying and being determined for each of said target sentences within said document; and

determining which parameters are required for the preparation of said summary based on said historical data, and preparing said summary of said target sentences sentence based on said parameters.

24. (original) The sentence summarization method according to claim 23, wherein said step of preparing said summary includes a step of:

determining which parameters are required for summarization, and preparing said summary for each of the predetermined sentence elements that constitute the sentences of said digital document.

25. - 27. (canceled).

28. (currently amended) A storage medium on which an output of a computer stores a computer-readable program that permits said computer to perform:

a process for extracting the structure of a digital document to be displayed;

a process for replacing, for each of the elements of said structure, said elements including sentences and images, the original contents of said digital document with a summary that is prepared based on historical data related to a display form for said document that was previously used for said digital document and other data relating to the display form of said digital document, said other data including a summary preparation request designating sentences ~~the sentence~~ for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of [[the]] target sentences sentence in the digital document, said summarization rate varying and being determined for each of said target sentences within said document, and a compression rate for said images, said compression rate varying for each of said images within said document;  
[[and]]

generating data related to a new display form; and

a process for displaying said digital document on said display device based on said data related to said new display form.

29. (previously presented) A storage medium on which an output of a computer stores a computer-readable program that permits said computer to perform:

a process for extracting the structure of a digital document;

a process for generating data, while maintaining said structure of said digital document, related to a display

form wherein display areas to be allocated to elements that constitute said digital document are altered in accordance with the importance levels of said elements, so that all elements of said digital document are always presented simultaneously on one screen; and

a process for displaying said digital document on a display device based on said data related to said display form.

30. (currently amended) A storage medium on which an output of a computer stores a computer-readable program that permits said computer to perform:

a process for obtaining [[a]] target sentences sentence to be summarized;

a process for obtaining historical data related to a summary for said target sentences sentence from a summarization history database in which historical data are stored that are related to a previous summarization of a document containing said sentences sentence and other data relating to the display form of said digital document, said other data including a summary preparation request designating the sentence for which summarization is required, a summarization keyword, and a summarization rate indicative of a ratio of length of a summary to length of the target sentences sentence in the digital document, said summarization rate varying and being determined for each of said target sentences within said document, and a compression rate for any images within said document, said compression rate varying for each image; and

a process for determining which parameters are required for the preparation of said summary based on said

historical data, and preparing said summary of said target sentence based on said parameters.

31. (previously presented) The digital document browsing system according to claim 1, wherein said user interface is configured to receive a view update request based on an operation performed by a user, said user interface causing said view generator to generate a new view in response to said view update request.

32. (previously presented) The digital document browsing system according to claim 9, wherein said user interface is configured to receive a view update request based on an operation performed by a user, said user interface causing said view generator to generate a new view in response to said view update request.

33. (previously presented) The browser according to claim 12, further comprising a user interface configured to receive a view update request based on an operation performed by a user, said user interface causing said display function to generate a new view in response to said view update request.

34. (canceled).

35. (previously presented) The digital document browsing system according to claim 6, wherein importance levels increase as time increases since information was last displayed.